UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF NEW YORK

UNITED STATES OF AMERICA,

DECISION AND ORDER
17-CR-6017 CJS

vs.

RICHARD WILBERN,

Defendant.

INTRODUCTION

The matter is now before the Court on Defendant's motion, ECF No. 81, to exclude DNA evidence and for a *Daubert* Hearing. For the reasons discussed below, the application is denied in its entirety.

BACKGROUND

During the investigation of the August 12, 2003, incident at the Xerox Federal Credit Union which is the subject the two counts contained in Indictment 17-CR-6017, forensic swabs were taken from an umbrella allegedly left behind by the perpetrator of the crimes. In that regard, the government intends to introduce at trial evidence that human Deoxyribonucleic Acid ("DNA"), sufficient for testing, was obtained at two specific locations on the umbrella. From each of these two locations, two separate swabs were taken by a criminalist at the Monroe County Public Safety Laboratory ("MC Lab"). Swabs labeled as 8.1 and 8.2 were obtained from one location, described as the umbrella's "external wrap-around closure and button." Swabs labeled as 8.3 and 8.4 were obtained from the other location, described as the umbrella's "lower latch mechanism" found on the interior

metal shaft of the umbrella. In subsequent testing, the MC Lab was able to detect human DNA on Swabs 8.1 and 8.3, but, as to these swabs, no DNA profiles were able to be developed. However, the two remaining swabs, 8.2 and 8.4, were allowed to dry and then packaged and stored at the MC Lab pursuant to their preservation protocols, which included maintenance in the Polymerase Chain Reaction ("PCR") freezer.

Thereafter, in 2011, armed with the knowledge that significant advances had been made in the field of DNA profiling, the MC Lab sent Swabs 8.2 and 8.4 to New York City's Office of the Chief Medical Examiner ("OCME"). Upon examining the swabs, OCME confirmed the presence of human DNA on both swabs. OCME was able to quantify the amount of DNA found at the locations - Swab 8.2 contained 88.2 picograms and Swab 8.4 contained 15.03 picograms. Given these amounts, the OCME utilized Low Copy Number ("LCN") DNA testing.[1] Based upon the testing, the OCME determined that, as to Swab 8.2, there was a mixture of DNA from at least two people. However, OCME was able to develop a profile for the major contributor to that DNA sample. As to Swab 8.4, OCME determined this to be the DNA of one person, and OCME was able to develop a profile for that single source sample. OCME then concluded that the DNA profile of Swab 8.4 was fully consistent with the profile developed for Swab 8.2. In other words, it was consistent with being the same person. Reports relative to their conclusions were generated and both DNA profiles were maintained in the records of OCME.

---

[1]OCME utilized LCN testing as opposed to High Copy Number Testing ("HCN") since the samples in question were below 100 picograms. However, regardless of whether the testing is HCN or LCN, the Polymerase Chain Reaction/Short Tandem Repeats methodology (PCR/STR) is employed. *See United States v. Morrow*, 374 F. Supp. 2d 51, 61 (D.D.C. 2005) (collecting cases and concluding that, "as a general matter, PCR/STR DNA testing meets the strictures of *Daubert* and is admissible.")

In 2016, OCME was asked to compare the profiles which it developed in 2011 with respect to Swabs 8.4 and 8.2 to the DNA profile of Defendant, Richard Wilbern. As to Swab 8.2, OCME concluded that the DNA profile of the major contributor matched the DNA profile of Wilbern. According to OCME, the probability of finding that profile again in the general population is approximately 1 in 6.8 trillion people. As to Swab 8.4, the single source sample, OCME concluded that the profile was consistent with the DNA profile of Wilbern. Even though a lower number of loci had been determined at the Swab 8.4 location (10 versus 15), OCME was able to conclude that the probability of finding that match again in the general population was 1 in 138 million people.

What Defendant challenges in his application is the use of LCN by OCME. Defendant contends that, pursuant to Federal Rule of Evidence 702, the OCME results and conclusions obtained and arrived at by the utilization of LCN should be excluded outright or, at a minimum, that the Court should conduct a hearing pursuant to *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993). What Defendant does not contest is the PCR/STR methodology (*see* Fn. # 1, *supra*) or the use of the Forensic Statistical Tool (referenced *infra*).

LAW

As the Second Circuit explained:

> While the proponent of expert testimony has the burden of establishing by a preponderance of the evidence that the admissibility requirements of Rule 702 are satisfied, *see Daubert*, 509 U.S. at 593 n. 10, 113 S. Ct. 2786, the district court is the ultimate "gatekeeper." *See* Fed. R. Evid. 104(a); *United States v. Cruz*, 363 F.3d 187, 192 (2d Cir. 2004); *see also Brooks v. Outboard Marine Corp*., 234 F.3d 89, 91 (2d Cir. 2000) (rejecting argument that opposing expert testimony is necessary to trigger the district court's obligation to analyze admissibility of expert testimony). The Federal Rules of

> Evidence assign to it "the task of ensuring that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand." *Daubert*, 509 U.S. at 597, 113 S. Ct. 2786.
>
> In assessing reliability, "the district court should consider the indicia of reliability identified in Rule 702, namely, (1) that the testimony is grounded on sufficient facts or data; (2) that the testimony is the product of reliable principles and methods; and (3) that the witness has applied the principles and methods reliably to the facts of the case." *Amorgianos v. Nat'l R.R. Passenger Corp*., 303 F.3d 256, 265 (2d Cir. 2002) (internal quotation marks omitted). But these criteria are not exhaustive. *See Wills v. Amerada Hess Corp*., 379 F.3d 32, 48 (2d Cir. 2004). *Daubert* enumerated a list of additional factors bearing on reliability that district courts may consider: (1) whether a theory or technique has been or can be tested; (2) "whether the theory or technique has been subjected to peer review and publication;" (3) the technique's "known or potential rate of error" and "the existence and maintenance of standards controlling the technique's operation;" and (4) whether a particular technique or theory has gained general acceptance in the relevant scientific community. *See Daubert*, 509 U.S. at 593–94, 113 S. Ct. 2786.
>
> "*Daubert's* list of specific factors," however, "neither necessarily nor exclusively applies to all experts or in every case." *Kumho Tire*, 526 U.S. at 141, 119 S. Ct. 1167. Rather, the district court's inquiry into the reliability of expert testimony under Rule 702 is a "flexible one." *Daubert*, 509 U.S. at 594, 113 S. Ct. 2786. Accordingly, "the law grants a district court the same broad latitude when it decides how to determine reliability as it enjoys in respect to its ultimate reliability determination." *Kumho Tire*, 526 U.S. at 142, 119 S. Ct. 1167. Yet while the district court's discretion is considerable, it is not unfettered: It does not permit the district court "to perform the [gatekeeping] function inadequately." *Id*. at 158–59, 119 S. Ct. 1167 (Scalia, J., concurring) (noting that the majority opinion "makes clear that the discretion it endorses—trial-court discretion in choosing the manner of testing expert reliability—is not discretion to abandon the gatekeeping function").

United States v. Williams, 506 F.3d 151, 160–61 (2d Cir. 2007). A district court's gatekeeping function under *Daubert* is meant "to ensure that the courtroom door remains closed to junk science." *Amorgianos v. Nat'l R.R. Passenger Corp*., 303 F.3d 256, 267 (2d Cir. 2002). In summary, Federal Rule of Evidence 702 requires the district court to ensure

"that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand." *Daubert v. Merrell Dow Pharm., Inc*., 509 U.S. at 597.

Moreover,

> While the gatekeeping function requires the district court to ascertain the reliability an expert's methodology, it does not necessarily require that a separate hearing be held in order to do so. *See* [*Kumho Tire Company, LTD*] at 152, 119 S. Ct. 1167 (district courts possess "latitude in deciding how to test an expert's reliability, and to decide whether or when special briefing or other proceedings are needed to investigate reliability"); see also *United States v. Alatorre*, 222 F.3d 1098, 1102 (9th Cir. 2000) ("Nowhere . . . does the Supreme Court mandate the form that the inquiry into . . . reliability must take....").

United States v. Williams, 506 F.3d at 161. In addition,

> "a slight modification of an otherwise reliable method will not render an expert's opinion per se inadmissible"—a "judge should only exclude the evidence if the flaw is large enough that the expert lacks 'good grounds' for his or her conclusions." [*U.S. v. Amorgianos*, 303 F.3d at 267. (internal quotations marks omitted). Instead, "[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence." *Daubert*, 509 U.S. at 596, 113 S. Ct. 2786.

United States v. Morgan, 675 F. App'x 53, 54–56 (2d Cir.), *cert. denied*, 138 S. Ct. 176 (2017).

ANALYSIS

To begin with, the government has argued that, apart from its other submissions, Defendant's application to exclude LCN DNA test results and for a *Daubert* hearing should be denied based solely upon the holding in *United States v. Morgan*, *supra*. In that decision, the Second Circuit held that the district court did not abuse its discretion in finding, after an extensive *Daubert* hearing, that expert testimony regarding the results of LCN DNA testing were admissible. In that regard, the government maintains, that since the same forensic

laboratory, OCME, and same expert, Dr. Craig O'Connor, were involved in *Morgan* as are involved here, this Court could and should summarily deny Defendant's motion in its entirety.

However, Defendant counters, pointing to the following language in *Morgan*:

> We express no opinion on the propriety of admitting the results of LCN testing in other cases and note that OCME is discontinuing its use of LCN testing in favor of newer technology that produces reliable results in most of the sensitivity range for which it previously employed LCN testing. *See* Timothy D. Kupferschmid, NYC Office of the Chief Medical Examiner, Department of Forensic Biology is Implementing New Technologies—a New STR Kit a New STR Analysis Software and a New Probabilistic Genotyping Software 2 (Sept. 19, 2016).

Id. at 56. This language appears to be consistent with the Second Circuit's caution in *United States v. Williams*, *supra*, a case involving an expert in ballistics:

> We do not wish this opinion to be taken as saying that any proffered ballistic expert should be routinely admitted. *Daubert* did make plain that Rule 702 embodies a more liberal standard of admissibility for expert opinions than did *Frye v. United States*, 293 F. 1013, 1014 (D.C.Cir.1923). *See Daubert,* 509 U.S. at 588, 113 S. Ct. 2786 (holding that the *Frye* test of general acceptance in the scientific community was superceded by the Federal Rules); *see also Amorgianos*, 303 F.3d at 265 (observing departure, under Federal Rule, from the *Frye* standard). But this shift to a more permissive approach to expert testimony did not abrogate the district court's gatekeeping function. *Nimely v. City of New York*, 414 F.3d 381, 396 (2d Cir. 2005).

United States v. Williams, 506 F. 3d at 161-162. What the Court takes away from *Morgan* and *Williams* is the implication by the Second Circuit that a district court, to discharge its gatekeeping function under *Daubert*, cannot adopt, without explanation, admissibility determinations by other courts without any analysis on its own. However, it appears reasonable to conclude, as New York courts have, that rulings in other court proceedings may properly be considered as an aid in determining the admissibility of proffered expert

testimony and in denying a pretrial hearing. *See People v. Gonzalez*, 155 A.D. 3d 507 (N.Y. App. Div. 2017), *leave to appeal denied*, 31 N.Y. 3d 1115 (2018); *People v. Foster-Bey*, 158 A.D. 3d 641 (N.Y. App. Div. 2018), *leave to appeal granted*, 32 N.Y.3d 937 (2018).

In any event, the Court has considered much more than just an unanalyzed, rote reliance on prior court decisions in discharging its gatekeeping responsibilities with respect to Defendant's application. To be more specific, in making its determination on Defendant's application to exclude LCN DNA evidence and for a *Daubert* hearing on whether such evidences comports with Federal Rule of Evidence 702, the Court has considered all of the following:

> First Motion to Exclude Evidence and Order *Daubert* Hearing by Defendant, ECF No. 81, which includes the following:
>
> > Notice of Motion by Anne Burger, dated July 31, 2018
> >
> > Affirmation of Anne Burger, dated July 31, 2018
> >
> > Exhibit A - Affidavit of Tina Delgado United States v. MacDonald, Biometrics Analysis Section DNA Technical Leader of the FBI Laboratory
> >
> > Exhibit B - FBI Laboratory DNA Casework (DCU) Case Acceptance
> >
> > Exhibit C - Government's Response to Motion for Additional DNA Testing in United States of America v. Jeffrey R. MacDonald, Eastern District of North Carolina, Western Division
> >
> > Exhibit D - Declaration of Allan Jamieson in connection with *United States v. Johnny Morgan*, 12-CR-223 (S.D.N.Y. 2013)
> >
> > Exhibit E - Publication by Bruce Budowle, Low Copy Number Typing Still Lacks Robustness and Reliability, Publication Date: 2010
> >
> > Exhibit F - Review by Bruce Budowle, Validity of Low Copy Number Typing and Applications to Forensic Science
> >
> > Exhibit G - User Guide - AmpFISTR Identifiler PCR Amplification Kit

Exhibit H - *People v. Peaks and Collins*, Indictment No. 7689/2010 and 8077/2010, Transcript excerpt of Dr. Chakraborty

Exhibit I - State of New York Office of the Inspector General - Investigation into the New York City Office of Chief Medical Examiner: Department of Forensic Biology, December 2013, Catherine Leahy Scott, Inspector General

Response in Opposition by USA as to Richard Leon Wilbern re [81] First MOTION to Exclude Evidence and Order Daubert Hearing, ECF No. 84, including the following:

Exhibit 1 - Report of Dr. Craig O'Connor, Officer of the Chief Medical Examiner, New York, NY

Exhibit 2 - Forensic Science Communications - Quality Assurance Standards for Forensic DNA Testing Laboratories

Exhibit 3 - By a Scintilla of Evidence: The Issues Involved in the Admissibility of Low Copy

Exhibit 4 - Forensic Science International: Genetics -Validation of a DNA mixture statistics tool incorporating allelic drop-out and drop-in

Exhibit 5 - Transcript excerpt *US v. Johnny Morgan*, 12-CR-223, (testimony of Dr. Craig O'Connor)

Exhibit 6 - Transcript excerpts *US v. Johnny Morgan*, 12-CR-223, (testimony of Dr. Jamieson)

Exhibit 7 - Validation of Testing and Interpretation Protocols for Low Template DNA Samples Using AmpFESTR Identifier

Exhibit 8 - FBI Forensic Science Communications - July 2004 - Revised Validation Guidelines

Exhibit 9 - Scientific Working Group on DNA Analysis Methods Validation Guidelines for DNA Analysis Methods

Exhibit 10 - Letter dated 10/6/05 to Chauncey Parker, Chair, NYS Commission on Forensic Science from John Ballantyne, Ph.D.

Exhibit 11 - Letter dated 12/15/05 to Mechthild Prinz, Ph.D., Director, NYC Office of the Chief Medical Examiner from John W. Hicks, Director, Office of Forensic Services

Exhibit 12 - *State of New Jersey v. Daniel Rochat*, Indictment No. 13-07-01002-I, Order and Opinion re hearing for admissibility of LCN DNA evidence

Exhibit 13 - *People v. Megnath*, 27 Misc.3d 405 (2010)

People v. Garcia, 39 Misc.3d 482 (2013)

People v. Gonzalez, 155 A.D.3d 507 (2017)

People v. Gonzalez, Indictment No. 954/13, Decision and Order

People v. Tribble, Indictment No. 2523/2007, Decision and Order

People v. Gordon, Indictment No. 2686/2011, Order

People v. Atkins and Cherry, Indictment No. 475/08, Decision and Order

People v. Gordon, Indictment No. 606/14,
Decision on Defense Counsel's Motion to Preclude DNA Evidence

People v. Williams, Indictment No. 3445/2008, Decision and Order

People v. Gibson, Indictment No. 85N/12, Decision and Order Granting Severance

People v. Enriquez, Indictment No. 5335/08, Decision and Order

People v. Horne, Indictment No. 1647/15, Decision and Order

People v. Perez-Colon, Indictment No. 219/2013, Decision and Order

People v. James, Indictment No. 81/2013, Decision and Order

Phillips v. State, 226 Md.App. 1, 126 A.3d 739 (2015)

People v. Foster-Bey, 158 A.D.3d 641 (2018)

Exhibit 14 - NYS DNA Subcommittee of the Commission of Forensic Science letter dated 6/2/14 to Michael Green, Executive Deputy Commissioner

Exhibit 15 - NYS DNA Subcommittee of the Commission of Forensic Science letter dated 9/16/14 to Michael Green, Executive Deputy Commissioner

Exhibit 16 - Letter dated 9/1/2017, from the Legal Aid Society and Federal Defenders of New York to Hon. Catherine Leahy-Scott regarding malfeasance

Exhibit 17 - NYS DNA Subcommittee of the Commission of Forensic Science letter dated 12/4/17 to Michael Green, Executive Deputy Commissioner

Exhibit 18 - ANSI-ASQ National Accreditation Board letter dated 1/16/18 to Timothy Kupferschmid, NYC Office of Chief Medical Examiner regarding complaint

Exhibit 19 - *US v. Morgan,* Defendant's memo of law in support of motion in limine

Exhibit 20 - *US v. Morgan,* Government's memo of law in opposition of motion in limine

Exhibit 21 - *US v. Morgan*, transcript of oral argument of motion in limine

Exhibit 22 - NYS Office of Chief Medical Examiner Lab Report dated 8/31/16

Exhibit 23 - NYS Office of Chief Medical Examiner Lab Report dated 9/1/16

Exhibit 24 - *US v. Wilbern*, transcript of hearing dated 6/22/18 regarding conflict in representation

Defendant's Response Relating to Daubert Hearing Request, ECF No. 139, which includes the following:

Exhibit A - Report by Dr. Angela van Daal dated December 14, 2018, in response to Dr. Craig O'Connor

Exhibit B - Declaration of Dr. Zoran Budimlija

Exhibit C - Email from Mitchell Holland to Timothy Kupferschmid regarding

LCN Statement

Exhibit D - Forensic Biology - Identifiler 28/31 Profile Generation Table

Government's Response to Defendant's Supplemental Submissions, ECF No. 141.

Government's Memorandum in Response to Defendant's Argument *re* Bode Technology and Dr. O'Connor, ECF No. 146, which includes the following:

Exhibit 1 - BODE Technology Forensic Case Report dated June 17, 2019

Exhibit 2 - Email dated August 19, 2019, to Doug Gregory from Lyndsey Sanny, BODE Technology

Exhibit 3 - Transcript of conversation between Mike Green and Barry Scheck October 24, 2014, of discussion re LCN validation by NYC OCME

Exhibit 4 - *Stajic v. The City of New York et al* Transcript of November 4, 2016 deposition of Eugene Lien

Exhibit 5 - Deposition of deposition of Craig O'Connor, Ph.D., dated March 20, 2017

Exhibit 6 - *Stajic v. The City of New York et al*, Report of Dr. Craig O'Connor

Exhibit 7 - Letter dated February 20, 2018, from Catherine Leahy-Scott, Inspector General, to Michael Green, Executive Deputy Commissioner, NYS Division of Criminal Justice Services

Exhibit 8 - Letter dated January 16, 2018, to Timothy Kupferschmid, NYC Office of Chief Medical Examiner from Pamela L. Sale, VP, Forensics, ANSI-ASQ National Accreditation Board re unfounded allegations and closing complaint.

With respect to prior case law on the admissibility of LCN DNA test results generated by OCME, the Court focused on, carefully read, and considered three very well reasoned decisions arrived at after extensive hearings. The first is the lower court decision in *United States v. Morgan*, 53 F. Supp 3d 732, *aff'd* 675 Fed. Appx. 53 (2017) in which District Court Judge Victor Marrero determined that the OCME LCN DNA test results at issue in that case satisfied the *Daubert*/Rule 702 requirements for admissibility. The second is the New York

Supreme Court case of *People v. Megnath*, 27 Misc. 3d 405 (N.Y. Sup. Ct. 2010) in which New York State Supreme Court Justice Robert Hanophy found that the OCME LCN DNA test results at issue in that case satisfied the more stringent *Frye* requirements for admissibility.[2] The third case is *State of New Jersey v. Daniel Rochat* (Indictment No. 13-07-01002-I, included as Exhibit # 12 to the government's Response in Opposition by USA as to Richard Leon Wilbern re [81] First MOTION to Exclude Evidence and Order *Daubert* Hearing, ECF No. 84), in which Judge Margaret Foti of the Superior Court of New Jersey Law Division-Criminal Part County of Bergen also determined that OCME LCN DNA test results met the *Frye* requirements for admissibility.

In *Morgan*, Judge Marrero, after describing in great detail the specifics of LCN DNA testing and the history of OCME's involvement in such testing, including its accreditation and approval for LCN DNA testing by the American Society of Crime Laboratory Directors/Laboratory Accreditation Board and the DNA Subcommittee of the New York Commission on Forensic Science, found that "OCME's LCN DNA test results and analysis at issue in this case are admissible under the standards set forth in *Daubert* and Federal Rule of Evidence 702." *United States v. Morgan*, 53 F. Supp. 3d 732 at 740. In so doing, Judge Marrero found that OCME's validation studies were adequate, that the size (14.15 pico grams) and quality of the DNA sample were sufficient, and that interpretation protocols used by OCME were reliable. He also rejected the defendant's argument that representations that OCME officials made during the approval process for LCN DNA testing

[2] "*Daubert* did make plain that Rule 702 embodies a more liberal standard of admissibility for expert opinions than did *Frye v. United States*, 293 F. 1013, 1014 (D.C. Cir.1923)." *United States v. Williams*, 506 F. 3d at 161.

were invalid, finding that:

> [B]ased on the Commission and DNA Subcommittee's actions described in correspondence on the record, that OCME was approved to perform LCN testing on the sample here. In response to question one, the DNA Subcommittee determined that there is no lower limit below which LCN testing cannot be performed, though it declined to determine whether there is a lower limit below which OCME could not test based on OCME's validation studies and protocols. (*See* Letter from Morgan dated June 2, 2014, Dkt. No. 132.) Notably, the Commission's approval in 2005 did not provide a lower limit for OCME's LCN testing. (Gov.'s Mem., Ex. 3.) This fact, combined with the DNA Subcommittee's finding that generally there is no limit below which LCN testing cannot be done, indicates to the Court that OCME was permitted to perform the test in question.
>
> Further, the Court is persuaded that OCME's representations in 2005 and 2006 regarding a 20 pg threshold do not signal that any testing OCME performed below 20 pg is unreliable. In response to the second question above, members of the DNA Subcommittee during the summer of 2014 visited OCME and analyzed its standard operating procedures, protocols, and validations to determine whether any changes had occurred that would require further validation. *See* 9–5–2014 DNA Subcommittee Meeting, New York State Criminal Justice Services, http://www.criminaljustice.ny.gov/pio/openmeetings.htm (last visited Sept. 29, 2014). Despite its members' awareness that OCME was performing LCN testing on samples smaller than 20 pg, the DNA Subcommittee found that no substantive changes had occurred to OCME's standard operating procedures for LCN testing since the Subcommittee's approval in 2005. *Id.* Thus, the DNA Subcommittee did not express a view that the testing of samples smaller than 20 pg required OCME to perform further validation. OCME's representations to the Commission and the DNA Subcommittee that it would not test samples containing less than 20 pg are beside the point. Given the DNA Subcommittee's ratification of OCME's ability to perform LCN testing below 20 pg, the Court agrees that OCME's representations in 2005 and 2006 do not, in and of themselves, indicate that OCME's testing of samples smaller than 20 pg are unreliable.

Id. at 746–47.

In *Megnath*, Judge Hanophy stated that:

> LCN DNA profiling as conducted by the OCME is not a novel scientific technique.
>
> DNA testing in the forensic community has been generally accepted as

> reliable for many years. It has also been found to be admissible under the *Frye* standard in New York courts for over 20 years. (*See People v Wesley, supra*.) The analysis that is utilized in HCN DNA testing and which has been admitted nationally in our courts for years is basically the same type of DNA testing that is used when LCN DNA testing is performed by the OCME.

People v. Megnath, 27 Misc. 3d at 412. Additionally, regarding a concern that there is a greater likelihood of stochasitic effects due to the more sensitive nature of LCN testing, Judge Hanophy wrote:

> Since forensic scientists have long been familiar with the scientific issues or phenomena that arise in both HCN and LCN DNA testing, forensic scientists, including the OCME, have created interpretation protocols to account for these phenomena when they occur in both HCN and LCN DNA testing. While these phenomena might appear more frequently in LCN DNA typing, the OCME has implemented interpretation protocols to compensate for these occurrences. The interpretation protocols that were developed by the OCME to compensate for the scientific phenomena were formulated by the OCME based upon its extensive validation studies regarding LCN DNA testing.

Id. at 410. Finally, Judge Hanophy concluded:

> Therefore, in addition to the court finding that the People have met their burden of establishing that LCN DNA testing as conducted by the OCME is generally accepted as reliable in the forensic scientific community under the standard enunciated in *Frye*, the court also finds that the People have shown that LCN DNA testing as performed by the OCME is not a novel scientific procedure within the scope of the *Frye* doctrine.

Id. at 413. With respect to LCN DNA testing by OCME, other New York courts followed suit, finding the results admissible under the *Frye* standard. *See People v. Gonzalez*, 155 A.D. 3d 507 (N.Y. App. Div. 2017), *leave to appeal denied*, 31 N.Y. 3d 1115 (2018); *People v. Foster-Bey*, 158 A.D. 3d 641 (N.Y. App. Div. 2018), *leave to appeal granted*, 32 N.Y. 3d 937 (2018); *People v. Gibson*, 163 A.D. 3d 586 (N.Y. App. Div. 2018); and *People v. Garcia*, 39 Misc. 3d 482 (N.Y. Sup. Ct. 2013). It is true that in *People v. Collins*, 49 Misc. 3d 595 (N.Y. Sup. Ct. 2015), Kings County Supreme Court disagreed that LCN DNA testing met the *Frye*

standard, but as the Eastern District of New York observed:

> The decision in *Collins* appears to be an "outlier among the forensic DNA software program cases in New York." *People v. Bullard-Daniel*, 42 N.Y.S.3d 714, 724 (Cty. Ct. 2016). At the time *Collins* was decided, other trial courts had already ruled that the techniques at issue were generally accepted within the forensic DNA community. *Id*.; *see also People v. Garcia*, 963 N.Y.S.2d 517, 523 (Sup. Ct. 2013) (holding that OCME's use of LCN and FST were not novel techniques requiring a *Frye* hearing and that both were generally accepted in the scientific community); *People v. Megnath*, 898 N.Y.S.2d 408, 415 (Sup. Ct. 2010) (same).
>
> The *Collins* decision has since been criticized by at least two other trial courts. *See People v. Carter*, 50 Misc.3d 1210(A) (N.Y. Sup. Ct. 2016) (finding "a possible lack of objectivity guiding the testimony of several of the defense experts in *Collins*" and holding that the *Collins* court gave insufficient weight to the recommendation of the DNA Subcommittee of the New York State Commission on Forensic Science approving FST); *see also Bullard-Daniel*, 42 N.Y.S.3d at 724 (noting that the court's role "is simply to determine whether the scientific principles behind [a technique] are accepted generally in the relevant scientific community ... [it] does not mean that there must be" unanimity within the scientific community.

Sullivan v. William Lee, No. 10-CV-425 (CBA), 2017 WL 3634598 at *10–11 (E.D.N.Y. Aug. 22, 2017), *appeal dismissed sub nom.*, *Sullivan v. Lee*, No. 17-2768, 2017 WL 8159197 (2d Cir. Dec. 21, 2017).

In *Rochat*, the New Jersey case, Judge Foti, after a lengthy *Frye* hearing found, in a well reasoned 46 page decision, that, with respect to LCN DNA test results generated by OCME:

> the state has met its burden under the *Frye* standard and clearly established that the LCN DNA testing technique and the FST is generally accepted in the relevant scientific community and therefore, admissible.

Id. at 46. In her decision, Judge Foti, "mindful of the concerns of the defense regarding contamination, and stochastic effects," concluded that "concerns have been addressed by the OCME in their procedures and testing methods, validated by OCME, and the testing

methods have been approved by the DNA Subcommittee." *Id*. at 44. Judge Foti further observed that "the LCN DNA technique has been utilized in post-conviction innocence project cases to exonerate defendants. It cannot be credibly argued (as Dr. Coyle seems to maintain) that LCN DNA results are reliable to rule suspects out, but not to implicate suspects." *Id.*

With respect to the New York case law, in his most recent submission, ECF No. 139, Defendant takes the government to task for relying on *People v. Foster-Bey*, *supra,* and *People v. Williams*, *supra*, in support of its position as to the reliability of LCN DNA testing without disclosing that both cases are on appeal. ("It is troubling that, when the government offered *Foster-Bey* in support of its position, it did not alert this Court to the New York State Court of Appeals' expressed interest in reviewing the lower court's decision regarding the reliability of the OCME's LCN DNA testing." Response Relating to *Daubert* Request, ECF No. 139.) ("The government relies on *People v. Williams*, cited as case number 3445/2008 from Bronx County Supreme Court. Yet again, the government neglected to advise this Court that the New York State Court of Appeals has granted leave to appeal in the *Williams* case." Response Relating to *Daubert* Request, ECF No. 139.) However, the Court has no reason to believe that the failure by the government to do so, while perhaps somewhat careless, was either intentional or especially significant. As to the latter point, the crux of both appeals seems to be that the lower court erred in the manner in which it purportedly discharged its *Frye* obligation. The appellant's brief in *Foster-Bey*, APL-2018-00157, is critical of the trial court for denying the defendant's motion to preclude "DNA testing and probability evidence" because it adopted "without explanation, the rationale of two trial court

decisions of coordinate jurisdiction, even though neither court had conducted a *Frye* inquiry into FST." Brief for Defendant-Appellant, December 20, 2018, pp. 2, 3 & 5." In *Williams*, the appellant objects to the finding of the lower court reached without holding its own *Frye* hearing and based only upon *People v. Megnath*, *supra*, that LCN DNA evidence was not novel but rather generally accepted. In that regard, significantly, the appellant included in his brief the following:

> While a hearing is not mandatory to meet the general acceptance standard, at least one exacting inquiry, involving some combination of evidence consisting of expert opinion testimony, scientific literature, court decisions, or law review review articles demonstrating that the technique is generally accepted is necessary *Wesley*, 83 N.Y. 2d at 437 (Kaye, C.J.), concurring; *People v. LeGrand*, 8 N.Y. 3d 439, 455 (2007); *Lahey v. Kelly*, 71 N.Y. 2d 135, 144 (1987); *Forte*, N.Y. at 206.

APL-2018-00151, Defendant-Appellant's Brief, December 21, 2018, pp. 2 & 4. In this case, the Forensic Statistical Tool ("FST"), is not at issue and the Court obviously has much more before it than just the *Megnath* analysis. Further, Defendant in his Response Relating to *Daubert* Request, ECF No. 139, points the Court to the New York case of *People v. Herskovic*, 165 A.D.3d 835 (N.Y. App. Div. 2018) in further support that the government's reliance on New York case law is misplaced. However, the holding of that case was not that the introduction of the results of the analysis of the DNA sample at issue was error, but rather:

> Under the circumstances of this case, including the complainant's inability to positively identify any of his attackers, the varying accounts regarding the incident, and the DNA evidence, which was less than convincing, we find that the evidence, when properly weighed, did not establish the defendant's guilt beyond a reasonable doubt.

Herskovic, 165 A.D.3d at 837.

Beyond the guidance offered by the case law discussed above, the Court, as indicated, has reviewed and considered the submissions of the government and Defendant as previously detailed. The Court finds especially significant Exhibit Nos. 16 and 17 attached to the Response in Opposition by USA as to Richard Leon Wilbern re [81] First Motion to Exclude Evidence and Order *Daubert* Hearing, ECF No. 84. Exhibit No.16 is a letter, dated September 1, 2017, that was sent by the New York City Legal Aid Society and the Federal Defenders of New York to the then New York State Inspector General, Catherine Leahy Scott. That correspondence, which was sent after the Second Circuit decision in *Morgan, supra,* was handed down on January 17, 2017, included the following:

> Finally, in a separate instance, OCME employees made false statements to members of the Commission of Forensic Science about the validation of the Low Copy number (LCN) testing methodology. These statements were made to the Commission during its hearing on October 24, 2014 where members were exercising their duty of oversight of the OCME's DNA testing methodologies pursuant to Exec. Law § 995-b. Commission members were concerned that LCN testing was being used in casework in instances that did not meet the criteria for which it had been validated and approved by the Commission. Specifically, in the case of *U.S. v. Morgan*, the OCME reported a positive identification in a mixed, degraded sample that contained only 14 picograms of total DNA with at least three contributors. Yet the OCME had not completed *any* validation experiments with LCN on three person mixtures containing less than 25 picograms of total DNA. In short, the OCME exceeded the limits of the study they used to develop LCN and to test its reliability, all in violation of the guidelines of the forensic science community. The OCME's response to the Commission inquiry, given by the Deputy Director of Forensic Biology, Eugene Lien, was fundamentally misleading.
>
> *****
>
> Low Copy Number (LCN) testing (or what the OCME refers to as "high sensitivity" testing) refers to the testing and analysis of very small amounts of DNA, often involving special techniques to increase the sensitivity of the test. LCN results are characterized by stochastic, or random, effects which radically affect their interpretation. The use of LCN testing in forensic casework is controversial and many leaders in the field of forensics believe it is unreliable.

Until January of this year, the OCME was the *only* public forensic laboratory in the United States employing LCN typing methodologies for use in court in a criminal case. When it moved to a new testing kit in January 2017, the OCME abandoned the LCN methodology and determined that the lower threshold for suitability for DNA testing is 37.5 picograms with that new kit.

The Legal Aid Society has challenged the validation and reliability of the LCN and FST methods from the inception of their use. LCN and FST were in-house methodologies developed by OCME scientists. OCME leadership viewed its LCN and FST procedures as a prestigious, pioneering effort. From 2006 through 2016 OCME was the only public laboratory in the United States that utilized LCN testing in criminal cases. There were a series of *Frye* hearings held that eventually culminated in the *Collins-Peaks* case in front of Judge Mark Dwyer in Brooklyn (Judge Dwyer now sits in Manhattan, where, for years, he was the widely respected Chief of Appeals at the New York County District Attorney's Office). Judge Dwyer ruled, after an extensive testimony and briefings, that both LCN and FST were not generally accepted as reliable by the relevant scientific communities. As part of the argument in *Collins-Peaks*, and in prior *Frye* hearings, district attorneys throughout the city, OCME lawyers, and OCME scientists claimed that the approval by the DNA Subcommittee of the New York Forensic Science Commission and the full Commission of LCN and FST constituted proof, by itself, that the methodologies were generally accepted as reliable. Similar arguments were made in federal court at a fiercely litigated *Daubert* hearing and a trial, *U.S. v. Morgan*, 53 F. Supp. 3d 732 (S.D.N.Y. 2014), aff'd, 675 F.App'x 53, 55 (2d Cir. 2017) and more recently in *U.S. v. Johnson*, 15 cr 565 (VEC).

The OCME developed its own LCN methodology which included changes in some of the testing steps and the interpretation of the results. Some of the most well-regarded forensic scientists in the world testified at an admissibility hearing in *People v. Collins* that the OCME's methodology is unreliable.

One such change occurs in one step of the testing process called PCR (Polymerase Chain Reaction.) PCR is a process which makes millions of copies of a particular sequence of DNA so that it can be detected and analyzed – in short, a molecular Xerox machine. OCME used kits manufactured by Applied Biosystems, Inc., which is one of the leading manufacturers of machinery in the industry. Applied Biosystems has validated the parameters of the use of their product at 28 cycles of PCR amplification. But the OCME used the kit at 31 cycles. Thus, OCME used the kit *outside of the range for which it was intended by the manufacturer*. With each cycle, the DNA is copied exponentially. This is significant because pieces of DNA not associated with the crime scene sample, *e.g.*, contamination and background trace amounts of DNA that have been left long before any defendant or witness potentially touched an item become

amplified with this increased sensitivity, thus appearing probative when they are not.

OCME's LCN methodology of testing very small amounts of DNA generated profiles that may have been incomplete due to missing alleles which are contaminated with alleles from donors not connected to the evidence, and contain other artifacts that look like real pieces of DNA (alleles) but are not. The following are the well-known products of LCN typing and were described in 2001 in a seminal paper by one of the world's leading forensic scientists, Dr. Bruce Budlowle. Dr. Budlowle, then a senior scientist at the FBI Laboratory Division took the position that LCN typing should not be used in criminal cases for presentation in court and later testified to this in *Collins*. These affects are categorized as:

> •Contamination/Drop-In. Drop-in is contamination. Drop-in occurs when the testing detects pieces of DNA that are not part of the crime scene sample but become part of the test results. This is greatly exacerbated with increased PCR cycles which increase the sensitivity of the test, therefore picking up contaminants.
>
> •Increase in Peak Height Imbalance. With LCN testing, peak height imbalance is increased, which can result in variations of the heights of peaks (alleles) belonging to one contributor and lead to the misrepresentation of the evidence. For example, the heights of peaks are used in trying to separate out an individual's profile. In a mixture, where there are peaks, or alleles from more than one person, an analyst will look for similarity in the height of the peaks in trying to determine whether they came from the same individual.
>
> •Increase in Allele Drop-Out. With LCN DNA testing, there is an increased chance of allelic "drop-out." Drop-out, which is an extreme form of peak height imbalance, occurs when a piece of DNA is not detected by the testing because the quantity of DNA being tested is so small. Thus, pieces of DNA that belong to the DNA profile of a contributor to a sample are literally missing.
>
> •Increase in Stutter Artifacts. LCN (31-cycle) PCR testing often causes an increase in the height of stutter artifacts. "Stutter" is the name for the product of a "mistake" in the PCR process: that is, when the DNA strand being copied during PCR slips and bulges, and therefore appears to be a DNA peak on a printed electropherogram to be interpreted by an analyst. Stutter is an

> artifact, not a real piece of DNA, although it looks like a piece of DNA (a peak on a electropherogram). Stutter is a well-known phenomenon even in conventional DNA testing and is usually recognized in routine testing because it is only a certain percentage of height of the real piece of DNA next to it. Stutter phenomena, however, are problematic with LCN testing because the height of stutter increases proportionally to a true allele (real piece of DNA) and is therefore difficult to identify as an artifact as opposed to a real allele. This increased challenge complicates interpretation of an electropherogram, making results less reliable.

These stochastic effects complicate the interpretation of the testing results that appear on the electropherogram and increase the chance of error. Stochastic effects are especially problematic with DNA mixtures, which are already challenging to interpret.

LCN testing methods have been, and continue to be, the subject of vigorous debate and disagreement within the forensic DNA scientific community, precisely because of the potential for unreliable, irreproducible and skewed results. As one text put it, "it is fair to say that LCN typing is the subject of great dispute among some the leading lights of the forensic community."

Given that LCN testing involved using lower initial sample sizes than standard DNA testing, making it extremely controversial, the OCME conducted studies to determine under what circumstances they could use LCN to make accurate identifications. In *U.S. v. Morgan*, the OCME reported a positive identification on a touched sample with only 14 picograms of total DNA. The sample was composed of *at least* three contributors to the sample. The sample was also degraded, meaning its condition was not optimal for analysis.

At issue in the trial was whether or not the OCME could accurately make an identification with such a small sample size and with so many contributors. The OCME had conducted no validation studies that could confirm the accuracy of LCN testing under circumstances akin to those in the *Morgan* case. The OCME's validation studies included no mixed samples of more than two individuals with less than 25 picograms of total DNA. Furthermore, the mixed samples from the OCME studies did not duplicate actual casework in that they came from pristine buccal swaB samples, not samples that mimicked the de*graded* sample in the Morgan case or that are more commonly found in actual forensic investigations.

October 2014 Commission on Forensic Science Meeting

In response to concerns raised by the *Morgan* case, specifically that the OCME was going beyond its experimental limits in applying the LCN method to casework, Commission member Barry Scheck asked Deputy Director of Forensic Biology for the OCME Eugene Lien the following question during an official meeting of the Commission of Forensic Science on October 24, 2014:

> Scheck: Do you have an internal validation study demonstrating that you can get correct answers on samples replicating casework at 25 picograms or less with mixtures of more than two people?
>
> Lien: Yes, we do.

Mr. Lien is unequivocal in his response and the Commission and the public were left with the impression that a study such as the one Mr. Scheck describes does, in fact, exist.

Marina Stajic case

Mr. Lien and other OCME officials were recently deposed in a wrongful termination lawsuit for former Commission member and OCME employee Dr. Marina Stajic, who claims, in part, that she was terminated due to her unfavorable Commission vote with respect to LCN testing, and in particular, her vote to pursue the issues raised by the *Morgan* matter.

Members of the full Commission on Forensic Science consistently expressed concern with the development of the LCN method. Two of those Commissioners, Barry Scheck and Peter Neufeld, were Co-Directors of the Innocence Project and were very familiar with the requirements for validating new DNA methodologies from having litigated the leading cases in the early development of forensic DNA evidence in the 1990s.

When a Subcommittee recommendation approving limited use of the LCN method case came before the full Commission, Peter Neufeld and other Commissioners asked Dr. Prinz, then Director of the Forensic Biology Laboratory, what were the lowest levels of DNA that OCME had validated internally it could get correct answers using the LCN method, and Dr. Prinz said 25 picograms. The suggestion was made that the laboratory do proficiency testing at the 25 picogram level to make sure lab personnel could get correct answers and DCJS Commissioner Chauncey Parker sent Dr. Prinz a letter making that suggestion.

> The validation of LCN next arose before the full Commission in 2014 in connection with the *Morgan* case. As discussed above, the OCME claimed that it could include Mr. *Morgan* as a contributor to a three person mixture of only 14 picograms of DNA – material constituting less than three cells' worth of DNA.
>
> Prior to the *Morgan* litigation, Eugene Lien confirmed to the Commission that the OCME had done an internal validation on samples replicating casework involving mixture of more than two people at below 25 picograms. No such internal validation study has ever been disclosed, and in *Morgan*, OCME DNA analyst O'Connor testified there had been no such internal validation study conducted. Commissioners took note of the contradiction between Lien's representations and O'Connor's testimony, but further efforts to verify Lien's account were not successful. Only Marina Stajic's federal employment suit, alleging that she was dismissed for supporting further investigation of this issue, revealed that no such study ever existed.
>
> During his deposition, Mr. Lien was asked under oath about his response to Mr. Scheck's question regarding OCME validation of LCN testing for mixtures under 25 picograms. When presented with the 11 volumes of internal validation conducted by the OCME on LCN testing, Mr. Lien was unable to identify any study that met the criteria of Mr. Scheck's question. Mr. Lien prevaricated about LCN being validated "as a whole." But Mr. Lien was not able to point to a study conducted by the OCME that met the criteria of Mr. Scheck's straight forward question, even though Mr. Lien had answered unequivocally and affirmatively at the Commission meeting.
>
> Of the samples that were tested that contained less than 25 picograms of DNA, none of them were mixtures. All of them were single-source profiles. Dr. Angel Van Daal, a DNA expert and international pioneer in the introduction of PCR DNA testing in court, analyzed all of the OCME's internal validation tests for the Stajic case. (Report attached) she reported that there is no single study meeting Mr. Scheck's criteria of, 1) a mixture of more than two people, 2) under 25 picograms, and 3) replicating casework. Mixture studies were done on two-person samples from pristine buccal swabs. They were not done on the three or more person degraded mixtures commonly found in casework. Further, in samples with contributions of DNA under 20 picograms, the samples were deemed not suitable for comparison, indicating that there are lower limits to LCN testing. [Van Daal report attached]

September 1, 2017 letter by the Legal Aid Society and Federal Defenders of New York (citations omitted) pp. 2, 6–11.

In response, the chairman of the New York State Commission on Forensic Science Michael C. Green, Esq.[3], to whom the September 1, 2017 letter by the Legal Aid Society and Federal Defenders of New York was forwarded by the New York State Inspector General, requested review by the DNA Subcommittee. In pertinent part, in correspondence dated December 4, 2017, Dwight Adams, Ph.D., the chairman of the DNA Subcommittee responded as follows:

> In your letter dated September 29, 2017, the Commission requested that the DNA Subcommittee review correspondence dated September 1,2017 that was sent to the New York State Inspector General (IG) by the Legal Aid Society and Federal Defenders of New York. That correspondence made serious allegations against the New York City Medical Examiner's Office (OCME). The DNA Subcommittee reviewed that correspondence, and the October 18, 2017 response from the OCME. In addition, the Subcommittee collectively reviewed approximately 1,700 pages of supporting documentation provided by theOffice of Forensic Services.
>
> ***
>
> In addition to raising issues with FST, allegations were made regarding the OCME's Low Copy Number (LCN) methodology. Based on the validations performed by the OCME, the DNA Subcommittee believes that the OCME could, using their LCN methodology, potentially identify a major contributor to a DNA mixture regardless of the number of minor contributors. The OCME validated its use of 31 PCR cycles in its LCN methodology. The DNA Subcommittee concludes it was appropriate for the OCME to use 31 PCR cycles in accordance with the OCME's validated casework protocols.

[3]The Commission on Forensic Science and the DNA Subcommittee were established by Article 49-B of the N.Y.S. Executive Law. The Commission is empowered to develop minimum standards and a program of accreditation for all public forensic laboratories in New York State. Accreditation of a forensic DNA laboratory is granted through the DNA Subcommittee. The Subcommittee also advises the Commission on any matter related to the implementation of scientific controls and quality assurance procedures for the performance of forensic DNA analysis. Chair: Michael C. Green, Esq., Executive Deputy Commissioner New York State Division of Criminal Justice Services.

> **In sum, the DNA Subcommittee finds no merit in the allegations regarding the OCME's scientific processes contained in the September 1, 2017 letter sent to the IG.**

December 4, 2017, letter from Chairman Adams of the DNA Subcommittee (emphasis added).

In Defendant's most recent submission in support of his motion to exclude DNA evidence and for a *Daubert* hearing (Response Relating to *Daubert* Hearing Request ECF No. 139), Defendant repeats previous arguments in support of his application. For example, he calls into question the credibility of Eugene Lien of OCME. In that regard, he attaches, as Exhibit B, the July 27, 2017, affidavit of Zoran M. Budimlija submitted in the Marina Stajic lawsuit. (¶ 9, "Do you have internal validation studies demonstrating that you can get correct answers on samples replicating case work at 25 picograms or less with mixtures of more than two people?" ¶ 13, "There is simply no basis from which someone with Mr. Lien's background and familiarity with OCME's low copy internal validation studies could have concluded that OCME possessed a validation study that met the criteria specified by Commissioner Scheck." ¶ 15, "It is not a matter of scientific opinion to conclude that Mr. Lien's response to Commissioner Scheck was not accurate It is simplly not true that OCME ever had the specific validation study that Commissioner Scheck asked about.") However, concerns about Mr. Lien were raised in the September 1, 2017 letter by the Legal Aid Society and Federal Defenders of New York (*see* excerpts *supra*), which, was subsequent to the July 27, 2017, affidavit of Ms. Budimlija in the Stajic case. In any event, these concerns were addressed by the DNA Subcommittee in its December 4, 2017 response, *see* letter from Chairman Adams of the DNA Subcommittee, *supra*.

Moreover, the 25 picogram or less sample at issue here (Swab 8.4-15.03 picograms) was from a single source, not a sample "replicating case work at 25 picograms or less with mixtures of more than two people" as posed by Commissioner Sheck.

Apart from the written arguments raised by Defendant in his Response Relating to his *Daubert* Hearing Request, ECF No. 139, he made two additional oral arguments at court appearances on August 14, 2019, ECF No. 148, and on August 29, 2019, ECF No. 150. First, Defendant suggests that Dr. O'Connor's credibility, and consequently the reliability of LCN DNA testing, are suspect based upon the following excerpts of his March 20, 2017, deposition testimony in the Marina Stajic lawsuit (referenced *supra*).

> Q. . . . sample that OCME identified here, Volume 8A does not reflect that OCME did any testing on the mixture that was less than 29.5 picograms; is that right?
>
> A. That's correct.
>
> Q. Based on that information and the information that we've already discussed with regard to the tests that are reflected in Volumes 9A and 9B we can say that OCME didn't do any validation studies on mixtures where the sample was less than 25 picograms, correct?

O'Connor deposition, ECF No. 146, Exhibit 5, p. 128, lines 6–7.

> Q. So, for example, I think we've discussed that OCME didn't do any particular studies on mixtures below 25 picograms, right?
>
> A. There weren't any specific tests that were done on mixtures below 25 picograms.

O'Connor deposition, ECF No. 146, p. 139, lines 3–9.

However, in reviewing Dr. O'Connor's entire deposition,[4] which the government provided as Exhibit # 5 to ECF No. 146, the Court finds relevant the following explanation by Dr. O'Connor:

> Q. So it is your opinion that even though there is not a specific study that demonstrates the validity of LCN testing at 25 picograms or less on casework samples with mixtures of more than two people in LCN's – in OCME's LCN validation that Mr. Lien's response to Commissioner Scheck was nevertheless correct?
>
> A. Well, there wasn't a specific test that was done on samples less than 25 picograms with more than two people, but the LCN validation taken as a whole demonstrates that we can get reliable results on those type of samples, so Mr. Lien's answer was correct.

O'Connor deposition, ECF No. 146, pp. 186-187, lines 22–12.

The government points out that Dr. O'Connor's deposition testimony in the *Stajic* case relates to mixed samples. As previously mentioned, the under–25 picogram sample at issue here (Swab 8.4–15.03 picograms), according to OCME, is from a single source. However, in that regard, Defendant made a second oral argument.

By way of background as to this second oral argument, upon Defendant's application, forensic swabs from the crime scene, including Swab 8.3, were sent to Bode Technology ("Bode") for independent analyses. As previously stated, Swab 8.3, like Swab 8.4, was obtained from the umbrella's lower latch mechanism found on the interior metal shaft of the umbrella. As indicated above, OCME found that Swab 8.4 was from a single source and that the profile developed for Swab 8.4 was consistent with the DNA profile of Defendant, concluding that the probability of finding that match again in the general

[4]It should be noted that Dr. O'Connor's March 20, 2017 deposition obviously preceded the September 1, 2017, letter by the Legal Aid Society and Federal Defenders of New York and the December 4, 2017, response of the DNA Subsommittee.

population was 1 in 138 million people. With respect to Swab 8.3, while Bode was unable to develop a profile for it, Bode concluded that it was consistent with a mixture of at least two individuals, Exhibit # 1 to ECF No. 146. From this, Defendant argues that the Court should view skeptically OCME's results as to Swab 8.4, since it attributed the sample to a single source, while Bode found that Swab 8.3, also obtained from the umbrella's lower latch mechanism was consistent with a mixture of at least two individuals. The Court is not persuaded by this argument, since it appears grounded in pure speculation. It calls upon the Court to assume either that the two swabs were taken from the same exact spot on the lower latch mechanism (common sense dictates this would be unlikely if not impossible, since the first swab would have seemingly removed the DNA evidence from that spot to which it was applied), or the Court would have to assume it would be impossible for one swab taken from a specific spot on the lower latch mechanism to be from a single source, while a second swab obtained from a different spot on the lower latch mechanism to be from a mixture of individuals. Both assumptions are unsubstantiated by anything presented to the Court.

The Court now turns its attention to the application of Rule 702 to the case law and information, as detailed above, that it has before it. First, there can be no question as to the first requirement for admissibility of the DNA evidence that the government seeks to introduce: relevancy. It seems clear that with respect to the subject indictment, the issue is the identity of the person responsible for the conduct alleged.

As to the second requirement for admissibility, reliability, the Court has considered the indicia of reliability identified in Rule 702, namely, (1) that the testimony is grounded on sufficient facts or data; (2) that the testimony is the product of reliable principles and

methods; and (3) that the witness has applied the principles and methods reliably to the facts of the case. The Court concludes that the LCN DNA results at issue meet the requirements of Rule 702 for admissibility. Moreover, the Court has considered where applicable the additional factors bearing on reliability suggested by *Daubert*, *i.e*., (1) whether a theory or technique has been or can be tested; (2) whether the theory or technique has been subjected to peer review and publication; (3) the technique's known or potential rate of error and the existence and maintenance of standards controlling the technique's operation; and (4) whether a particular technique or theory has gained general acceptance in the relevant scientific community. *See Daubert*, 509 U.S. at 593–94. As to the *Daubert* factors, the Court concludes that LCN DNA testing, as performed by OCME did gain general acceptance in the relevant scientific community and did meet appropriate standard and review requirements.

Further in reaching its determination, the Court has been mindful of the advice from the Second Circuit that, "a slight modification of an otherwise reliable method will not render an expert's opinion per se inadmissible"—a "judge should only exclude the evidence if the flaw is large enough that the expert lacks 'good grounds' for his or her conclusions." *Amorgianos v. Nat'l R.R. Passenger Corp*., 303 F.3d at 267. In short, here, the Court finds that results obtained from LCN DNA testing do not amount to "junk science," to which the courtroom should remain closed. *Id.* Rather, in this case, vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of testing what the Court finds to be admissible evidence. *Daubert*, 509 U.S. at 596.

Finally, as indicated earlier, the Court is aware that in *Morgan*, this Circuit noted that "OCME is discontinuing its use of LCN testing in favor of newer technology that produces reliable results in most of the sensitivity range for which it previously employed LCN testing." *United States v. Morgan*, 675 F. App'x at 56. However, the fact that OCME now uses a different DNA testing kit called the Promega PowerPlex® Fusion kit, which is able to perform what would previously have been termed both low copy and high copy DNA testing, down to the specified minimum sample size, in no way alters the Court's conclusions as to the admissibility of the LCN DNA results in this case. In that regard, "[a]n old method is not unreliable simply because there has been scientific progress since it was employed."*United States v. Williams*, No. 3:13-cr-00764-WHO-1, 2017 WL 3498694, at * 6 (N.D. Cal. Aug. 15, 2017). While OCME is now relying on a more advanced method of DNA testing, the Court has found, based upon the discussion above, that LCN DNA testing was reliable with respect to the findings and conclusions at issue in this case. See *United States v. Williams*, 2009 WL 1704986, at * 6 (C.D. Cal. June 17, 2009).

CONCLUSION

Accordingly, the Court denies both Defendant's application to exclude DNA evidence, and for a *Daubert* hearing, ECF No. 81.

DATED: September 6, 2019
Rochester, New York

/s/ Charles J. Siragusa
CHARLES J. SIRAGUSA
United States District Judge